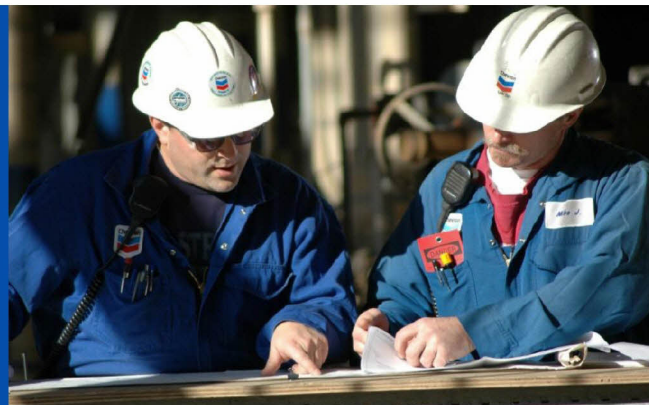




Richmond Refinery | Incident and Injury Free | Enroll & Engage

3Q Proactive Event: Hazard Identification and Risk Assessment



Week 1: Introduction

July 19, 2010

Agenda



- Review Agenda
- Introduction: Hazard Identification as a proactive event.
- Deliverables
- Activities/ Discussion
- Ground Rules
- LPSA – Assess, Analyze, and Act ...
- Take 5 to Recognize

Introduction - Incident and Injury Free Proactive Events



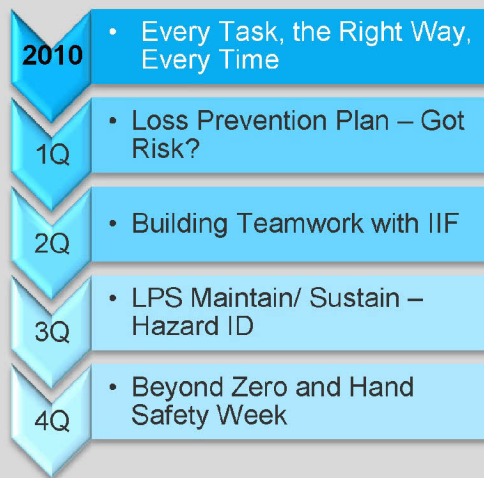
Hazard Identification and Risk Assessment are “key areas for improvement” based on the 2009 Major Incident Study. (*see the safety topic of the month for more information*). Living Incident and Injury Free means we will be proactive, instead of reactive.

This quarter, work groups will participate in weekly discussions to build our competencies in HAZID and Risk Assessment:

- We won't be adding a new task or procedure.
- We will be talking about how we see our jobs, how we act to reduce risks... and when we don't.



Proactive Quarterly Events



Week 1. Deliverables



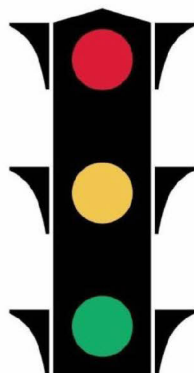
- Today: Introduce the 3Q Proactive event and create a starting point for Hazard Identification.
- At the end of the 3rd Quarter:
 - 1) Increase individual and group competency in Hazard Identification and Risk Assessment,
 - 2) Reinforce the need for teamwork (or relationships) to develop dialogue (or communication skills) around risk assessment,
 - 3) Understand how we control our environment through our behaviors. Introduce accountability into the equation. Are you doing what you say you're going to do?

Those three little words... to make us more successful



LOSS PREVENTION SELF ASSESSMENT

BEFORE BEGINNING ANY ACTIVITY/TASK/JOB, AFTER A LOSS OR NEAR LOSS, ANY UNUSUAL CIRCUMSTANCES:



ASSESS the risk!

What could go wrong?

What is the worst thing that could happen if something does go wrong?

ANALYZE how to reduce the risk!

Do I have all the necessary Training and Knowledge to do this job properly?

Do I have all the proper Tools and Personal Protective Equipment?

ACT to ensure loss-free operations!

Take necessary Action to ensure the job is done properly!

Follow written procedures! Ask for assistance if needed!

DO NOT PROCEED UNLESS ALL RISKS HAVE BEEN ADDRESSED!

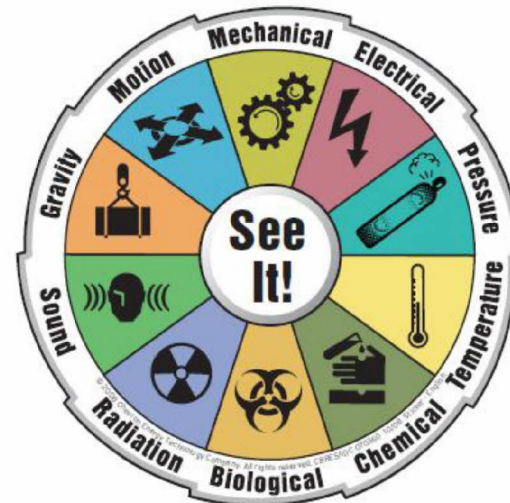
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Discussion



Where's the next environmental incident or injury going to occur?

What are the hazards associated with that activity or task?



Week 2. Deliverables



- Today: Provide Definitions for the team, so we are all speaking the same language
- At the end of the 3rd Quarter:
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 - 2) Reinforce the need for teamwork (or relationships) to develop dialogue (or communication skills) around risk assessment,
 - 3) Understand how we control our environment through our behaviors. Introduce accountability into the equation. Are you doing what you say you're going to do?

Definitions



| Word | Definition |
|---------------------------|---|
| Risk | The likelihood or probability that a consequence will occur. |
| Hazard | A chemical, biological or physical condition that has the potential for causing harm to people, property or the environment. |
| Probability or Likelihood | A quantity of time expressing the likelihood of occurrence that a given event will take place. Expressed as Likely, Occasionally, Seldom, Unlikely, Remote or Rare. |
| Values | Personal standards or principles regarded as desirable or worthwhile and are not negotiable. |
| Consequence (+, -) | Reflect the positive or negative outcome/impact based on the nature or type of hazard and the environment around the hazard. Consequences are categorized as Safety, Health and Environmental |

Personal Decisions

Actions I control.




| Personal Decisions | Independently made actions that impact my work activities. |
|--|---|
| Safeguards—reduce the likelihood that negative consequence will result from a hazard | Hazard controls [i.e. LPSA, JSA, JJSV, Stop Work Authority, Procedures, Operating Standards, MOC, HSE, PSSR, Refinery Instructions, Safe Work Practices etc.] |
| Personal Accountability | Behaviors and Decisions which I am responsible for. |
| Personal Decisions | Independently made actions that impact my work activities. |
| Agreement - | Two or more people deciding on a single course of action related to an activity's hazards. |
| Operational Discipline | Every Task, the right way, every time. Ensuring that the hazards have been mitigated for each task. Your collective approach. . . . |
| LPSA | Loss Prevention Self Assessment – Assess, Analyze, Act |

Personal Decisions

Actions I control.



| Personal Decisions | Independently made actions that impact my work activities. |
|---------------------|---|
| Stop Work Authority | Expectation executing your right and responsibility to ensure Tenets, Safe Work Practices, Procedures, Refinery Instructions etc. are <u>always</u> executed correctly. |



Stop / Pause Work Authority


It is your responsibility AND you have stop work authority. We always comply with the Refining Tenets that are based on the two principles:

- Do it safely or not at all
- There's always time to do it right

As an employee or contractor for Chevron, you are responsible and authorized to **STOP** any work that does not comply with our Tenets. Your actions to support the Tenets are fully supported by the Chevron Richmond Refinery Management Team.

- All issues will be addressed promptly
- All levels of refinery management support you

That is our commitment to you.



Mike Coyle, Refinery General Manager

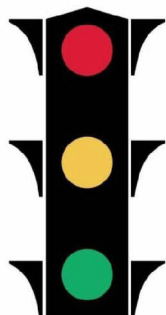
5 Steps of Stop Work Authority

- Step 1** • Stop the Unsafe Activity
- Step 2** • Notify the person in charge (Supervisor, HO, Head Mech.) so the issue can be addressed.
- Step 3** • Involve the right people, discuss the concerns and correct the issue as necessary.
- Step 4** • Resume work
- Step 5** • Share what you learned with other potentially impacted employees and/or contractors.

How do you rate the Risk you find in your daily LPSAs? (**Assess**)

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What is the worst thing that could happen if something does go wrong?

ANALYZE how to reduce the risk!

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Week 3. Deliverables



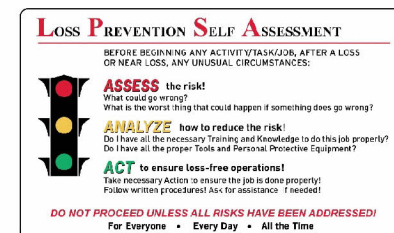
- Today: Which safeguards do we choose to use (or not use) to reduce the risks in our daily activities.
 - *For example: One safeguard we have in the Refinery is to adhere to motor vehicle driving rules and safety regulations.*
- At the end of the 3rd Quarter:
 - 1) Increase individual and group competency in Hazard Identification and Risk Assessment,
 - 2) Reinforce the need for teamwork (or relationships) to develop dialogue (or communication skills) around risk assessment,
 - 3) Understand how we control our environment through our behaviors. Introduce accountability into the equation. Are you doing what you say you're going to do?

What safeguards do you use daily to make sure you don't experience an accident while driving? Which safeguards do you choose to ignore.

■ **ANALYZE** -Do I have the training I need (Driver's license)? No? What choice will you make?

■ **ANALYZE** - Do I have the tools and PPE (seatbelt)? No? What choice do you make?

■ **ANALYZE** -Do you understand all components and potential risk that are associated with your job?



Week 4. Deliverables

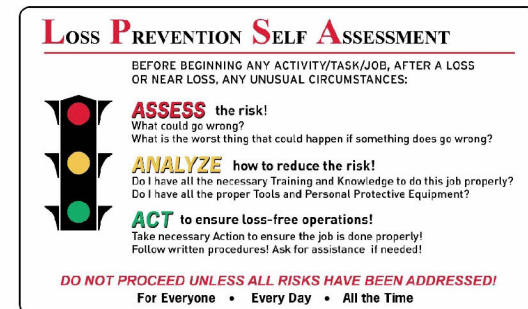


- Today: Have a discussion about Every Task, the Right Way, Every Time ... by reviewing how well we apply our safeguards to our daily activities.
- At the end of the 3rd Quarter:
 - 1) Increase individual and group competency in Hazard Identification and Risk Assessment,
 - 2) Reinforce the need for teamwork (or relationships) to develop dialogue (or communication skills) around risk assessment,
 - 3) Understand how we control our environment through our behaviors. Introduce accountability into the equation. Are you doing what you say you're going to do?

How does your personal decisions affect the success or failure of the safeguards we choose to implement?

■ **ACT - How well do you use our safeguards?**

- Complete and Good communication on a JJSV
- JLA
- Morning Tailgate meetings
- HSE
- Hazard Wheel
- MSDS reference
- Job procedures
- Effective Turnovers
- Understanding your functional limits – Are you over your head? Ask for assistance.



Week 5. Deliverables




- Today: Check in – discover whether or not we are learning and changing our behaviors related to Hazard Identification and Risk Assessment.
- At the end of the 3rd Quarter:
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 - 3) Understand how we control our environment through our behaviors. Introduce accountability into the equation. Are you doing what you say you're going to do?

Where have you made the greatest changes in your actions related to: Hazards, Risks, Safeguards, and Personal Accountability? What hasn't changed?

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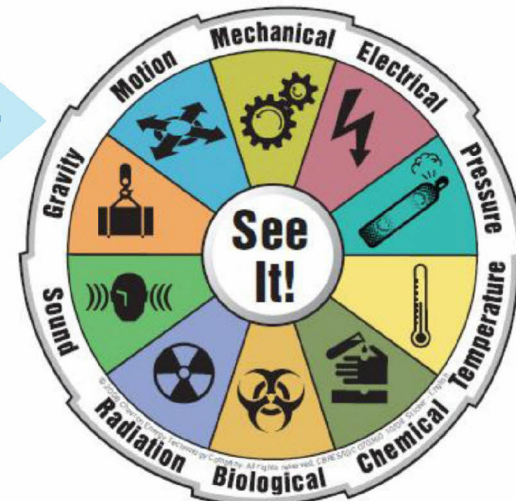
ANALYZE how to reduce the risk!
Do I have all the necessary Training and Knowledge to do this job properly?
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ACT to ensure loss-free operations!
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For Everyone • Every Day • All the Time

LPSA

HAZID



Week 6. Deliverables



- Today: Discuss how personal decisions impact our ability to live Incident and Injury Free.
- At the end of the 3rd Quarter:
 - 1) Increase individual and group competency in Hazard Identification and Risk Assessment,
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Discussion

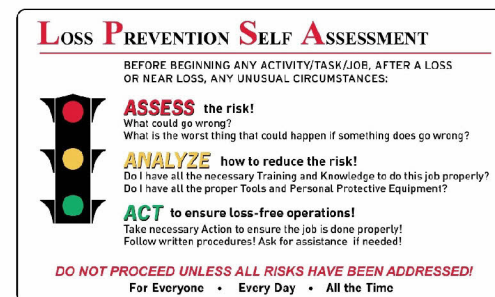


Give an example of how personal decisions have resulted in either a positive or a negative outcome.

Ex. Choosing to use a grinder with one hand, instead of a vice.

Ex. Not using Cut Line tape on a live or isolated line.

Ex. Using Stop Work Authority to prevent an unauthorized entry into a confined space.



Week 7. Deliverables



- Today: Compare how risk is evaluated at work based on your values (home vs work).
- At the end of the 3rd Quarter:
 - 1) Increase individual and group competency in Hazard Identification and Risk Assessment,
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Imagine you were responsible for and were giving work direction to a New Hire or SSE at the refinery.

1. How in depth would the conversation be about hazards, risks, and the use of safeguards?
2. How would the conversation change if it were a relative (son, daughter, niece or nephew) or close friend?

Mentor Discuss Engage

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Week 8. Deliverables



- Today: Discuss how easy and obtainable Risk Assessment can be.
- At the end of the 3rd Quarter:
 - 1) Increase individual and group competency in Hazard Identification and Risk Assessment,
 - 2) Reinforce the need for teamwork (or relationships) to develop dialogue (or communication skills) around risk assessment,
 - 3) Understand how we control our environment through our behaviors. Introduce accountability into the equation. Are you doing what you say you're going to do?

We all make dozens of risk-based decisions ... like
Backyard Barbbque, walking across the street, riding a
bike, walking down stairs, going skydiving, entering a
plant, working at heights, working on a computer ...

Do you weigh the probability and likelihood of a negative
outcome before you make a choice or act?

What risks are we willing to live with? And Why?

Ex. I like skydiving... it's fun.

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Week 9. Deliverables



- Today: Introduce how decisions are being made beyond our personal control in the refinery by using our Risk Prioritization Matrix.
- At the end of the 3rd Quarter:
 - 1) Increase individual and group competency in Hazard Identification and Risk Assessment,
 - 2) Reinforce the need for teamwork (or relationships) to develop dialogue (or communication skills) around risk assessment,
 - 3) Understand how we control our environment through our behaviors. Introduce accountability into the equation. Are you doing what you say you're going to do?

Discussion



What process is being used to prioritize a Maximo Work Request? And how does this impact our Risk Assessment decisions?

How is similar Risk Prioritization Matrix criteria used in your work group?

- Unit Reliability Briefs
- Turnaround Optimization
- Inspection Recommendations
- Loss Prevention Observation Findings
- Routine Maintenance Work Scheduling
- Work Group Budgets

Routine Work Control Prioritization



(MAXIMO aligned Reactive Maintenance Prioritization Matrix)

Reactive Maintenance Prioritization Matrix

RISK = CONSEQUENCE X LIKELIHOOD

| CONSEQUENCE Assess against each Consequence Select the most severe Consequence | | IIR Classification | | Below IIR Classification | | Level 1 | Level 2 | Level 3 (a) | Level 3 (b) |
|--|---|--|--|--|---|--|---|--|---|
| | | Safety Impact | | No Safety Concern | | Minor Safety Concern | First Aid | Recordable Injury | Recordable Injury requiring hospitalization or Lost Work Day |
| | | Environment Impact | | No Environmental Concern | | Any and low impact spill of non HC liquid | HC spill to land or containment <1 bbl. Chemical spill <350lbs. Not Recordable only | HC spill to water <1 bbl. HC spill to land or cont. btlw 1-50 bbl. Reportable to an outside Agency | HC spill to Water > 1 bbl. HC spill to land or cont. btlw 50-500 bbl. Outside agency responds |
| | | Equipment Failure Consequences | | No Equipment or Production Concern | | Process Unit upset | Reduced feed rate at process unit | Free < \$5k damage | Free > \$5k damage |
| | | Operational Flexibility | | No Operational Concern | | Alternate modes for operation, spare equipment | Alternate modes for operation, spare equipment | Marginal alternate modes for operation, spare equipment | Limited or Restricted modes for operation, spare equipment |
| | | Production or Asset Loss on Non-Routine / Projects | | No Damage or Asset Loss | | Minimal damage or asset loss <\$30,000 | Minimal damage or asset loss \$30,000-\$100,000 | Some Asset Loss, damage or reduced feed rate. Cost \$100k to \$500k | Some Asset loss, damage or downtime. Cost \$500k to \$1Million |
| | | | | Annualized Cost | | < \$10,000 | < \$30,000 | < \$150,000 | < \$300,000 |
| | | Severity --> | | 0 | 1 | 2 | 3 | 4 | 5 |
| LIKELIHOOD Likelihood the Consequence can reasonably be expected to occur | A | Corrective Maintenance Scale | | Review Requirement to progress this work | | 3 | 2 | 1 | 1 |
| | B | | | | | 4 | 3 | 2 | 1 |
| | C | | | | | 5 | 4 | 3 | 2 |
| | D | | | | | 6 | 5 | 4 | 3 |
| | E | | | | | 6 | 6 | 5 | 4 |

| Passport Priority and Codes | | | |
|-----------------------------|---------------|-------------------------------------|------------------------|
| Priorities | Passport Code | Priority Setting | Latest Completion Date |
| 1 | | Emergency (Schedule Breaker) | Immediate |
| 2 | | Urgent (Potential Schedule Breaker) | 7 days |
| 3 | | Routine Priority | 14 days |
| 4 | | Routine Priority | 30 days |
| 5 | | Routine Priority | 90 days |
| 6 | | Routine Priority | 365 days |
| | | | |
| | | | |

NOTES:

- 1) Used for Corrective Work Orders / Work Requests
- 2) Review the failure or degradation
- 3) Mitigate (either Mitigate Consequences, or Likelihood, or both)
- 4) Prioritize the failure or degradation based on the robustness of the mitigation applied
- 5) Review mitigation to ensure it remains suitable until the Latest Completion Date or until repair completed

Week 10. Deliverables



- Today: The group will discuss learnings from the last nine weeks.

- At the end of the 3rd Quarter:
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Discussion



How has your understanding of Risk Assessment, Hazard Identification and Personal Accountability impacted someone else, or changed your personal views of how you approach your daily activities?

1st and 2nd Line Supervisor/ Manager Meeting



Work Process Used: Existing Meetings - Weekly Check in Meeting.

Weekly Topics for Supervisors/ Managers:

Week 1 Introduction: Self Assessment – Do 1st and 2nd line supervisors have alignment with Managers expectations?

Week 2: Are you familiar with the definitions? How do they tie into your daily routine?

Week 3: How do you engage with your workgroup with LPSA?

Week 4: On your last Walkabout with Intent, was the hole watch in place? Were permits complete and signed? Do you notice that safeguards are in place on your Walkabout with Intent?

Week 5: Have these discussions changed the way that you give work direction?

Week 6: How have your personal decisions directly impacted your work group?

1st and 2nd Line Supervisor/ Manager Meeting



Work Process Used: Existing Meetings - Weekly Check in Meeting.

Week 7: How do we manage the different levels of skill and personalities within your work group?

Week 8: Recognition can influence behaviors.Who within your work group stands out with Identifying Hazards? How do you recognize them?

Week 9: What ways do we use the Risk Prioritization Matrix and ensure the right people are involved in our risk based decisions?

Week 10: How can we improve our communication/teamwork to ensure we identify and implement the proper safeguards when executing our daily tasks or activities. while meeting our business plans/objectives?

Take 5 to Recognize

Proactive Engagement takes courage.



Take 5 to Recognize



During your activities, what were the conversations which stimulated engagement and had a positive impact on our understanding and awareness of risk?

Ask each participant to identify what they “valued most” from the conversation and have them recognize the individual for making this contribution.

People deserve to hear they are appreciated!